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(71) Applicant: **SHARP CORP**

(72) Inventor: **OKADA YOSHIHIRO**
BAN ATSUSHI
OKAMOTO MASAYA
NISHINO HIROKI

(54) THIN FILM TRANSISTOR AND ITS MANUFACTURE

(57) Abstract:

PROBLEM TO BE SOLVED: To reduce capacitance between a pair of gate electrodes and source/ drain regions, by forming the pair of gate electrodes on the top and bottom surfaces of a semiconductor thin film to sandwich a channel region comprising the semiconductor thin film between them, and by making their positions and shapes overlap with the position and shape of the channel region in plan view.

SOLUTION: Forming a first gate electrode 12a on an insulation substrate 11, a first gate insulation film 13a such as a silicon oxide film is formed on the whole surfaces of the gate electrode 12a and insulation substrate 11. Forming thereon a semiconductor thin film, source/drain regions 15, 16 are formed in both side end regions of the semiconductor thin film to form a channel region 17 between the regions 15, 16. Further, forming a second insulation film 13b on the whole surface of the region including the semiconductor thin film, a second gate electrode 12b is formed thereon. Hereupon, the positions and shapes of the first and second gate electrodes 12a, 12b are made to overlap with the position and shape of the channel region 17 in plan view.

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